

BLINDNESS IN BANGLADESH

A survey carried out by the International Centre for Eye Health in conjunction with the National Institute of Ophthalmology in Bangladesh showed that 4.6 million Bangladeshis have serious vision problems. The most common cause of blindness is cataract, but a vast number of Bangladeshis also suffer from refractive error¹. Both of these conditions can be easily and cheaply treated, yet thousands of people are going needlessly blind because they do not have access to eye health care.

In 2004 there were only 626² ophthalmologists in Bangladesh, the majority of whom practice in private, urban practices. However, the majority of the population live in poor rural areas, and can neither reach nor afford the available services. Additionally, there are very few optometrists in the country so diagnosis of refractive error and prescription of spectacles is done by ophthalmologists; reducing the time they are able to spend performing surgeries.

Blindness for both adults and children has an enormous personal, social and economic cost. Blind people in developing countries find it almost impossible to work to help their families and communities, or to live an independent life. Blind and visually impaired children have very limited access to education, and their life expectancy is significantly shorter than that of sighted children – approximately half of blind children die within five years of losing their sight.

THE PROJECT: JUNE 2004 – MAY 2008

Location and partner

The district of Sylhet is located in the northeast of Bangladesh. The population of the district is approximately 8 million, the vast majority of whom live in rural areas. Of the 22 ophthalmologists in the region, none had any sub-specialty training prior to this project. This meant there were no paediatric eye care services for the 3 million children in the area. It is estimated that 102,400 children in Sylhet have some form of visual impairment, largely due to refractive error.

In addition, cataract incidence is very high, with cataract alone causing an estimated 60,000 existing cases of adult blindness, with a further 12,000 new cases every year. The number of surgeries conducted in the region previously fell far below the rest of the country, due to the inability of the population to access services, and the poor perception of the quality of the services available.

ORBIS is working in partnership with Bangladesh National Society for the Blind (BNSB) Eye Hospital in Moulvibazar, Sylhet, which was established in 1976 and for ten years operated mobile cataract surgical units, using seconded ophthalmologists from other parts of the country. In 1986, a small hospital was built, which now has a staff of forty providing much-needed consultation, surgical and referral services in this area.

Project objectives

- **Capacity building – paediatric care:** Set up a child friendly paediatric ophthalmology unit, and provide specialist training for a paediatric eye care team. 25,000 children will receive treatment and 1,000 surgeries will be performed by May 2008
- **Capacity building – cataract care:** Establish and equip a one-stop cataract unit and provide training in up-to-date cataract surgery techniques for two ophthalmologists, and training in post-surgical patient care for 2 nurses
- **Sustainability:** Build capacity in eye care management at BNSB Eye Hospital, and develop sustainability measures to ensure the long-term viability of services.

¹ A refractive error occurs when the shape of your eye does not bend light correctly, resulting in a blurred image, e.g. short-sightedness

² ORBIS, Sightsavers International and Bangladesh National Institute of Ophthalmology joint study, 2003

ACHIEVEMENTS (TO THE END OF 2006)

Infrastructure

The newly renovated and fully equipped paediatric ophthalmology outpatient department has opened and is now providing sight-saving care to the regions children. This is the first and only such facility in the north-east of Bangladesh, making it a vital resource for the region. The renovation work on the out-patient department to establish a one-stop cataract service was also completed in 2006, and an operating microscope installed in the operating room. This will enable staff to perform a larger number of cataract surgeries, helping to clear the backlog of cases and restore sight to patients suffering needless blindness due to cataracts.

Training

To date, **two doctors** have completed hands-on sub-specialist training, including:

- Consultant Ophthalmologist Dr. Rafiqul Alam completed a 3-month training programme in small incision cataract surgery (SICS). This technique will allow Dr. Alam to treat many more patients, and significantly reduce the risk of complications, and patient recovery time (compared with out-dated techniques previously used)
- Senior Consultant Dr. Syed Kefayet Ullah completed a 6-month training course in paediatric ophthalmology with ORBIS partner Chittagong Eye Infirmary and Training Complex (CEITC) in June 2005, and is now providing specialist care for children at Moulvibazar BNSB. Additionally, Dr. Ullah completed 3-months training in cataract surgical technique phacoemulsification³ at the end of 2006, giving him the skills to treat very mature, hard cataracts through a small incision, which would otherwise be difficult to remove.

One of the most successful tools ORBIS uses to transfer skills is **Hospital Based Programmes** (HBPs). With the support of the Jersey Overseas Aid Commission, ORBIS delivered a 1-week intensive HBP in paediatric eye care in April 2006. Three of our specialist medical volunteers travelled to Moulvibazar to share their skills in treating common eye conditions affecting children. The training focused on orthoptics, which is concerned with defects of vision and eye movement. The particular conditions addressed were strabismus⁴ (squint) and ptosis⁵, which can both be corrected, but if left untreated become much harder to correct later on, potentially resulting in permanent visual impairment. **Two ophthalmologists benefited from hands-on training**, and a further 15 doctors attended lectures improving their knowledge about these conditions, aiding more effective and expeditious diagnosis and referral for treatment.

It is vital to train complete teams of eye care professionals to ensure a high standard of care and efficient delivery of services: **Six ophthalmic paramedics** have so far completed training through this project, all of which has been undertaken at CEITC. Two paramedics completed training in orthoptics and one paramedic has been trained on refraction⁶, and they are now providing care in the paediatric unit. Hundreds of thousands of children suffer impaired vision due to squints and refractive error: These conditions can be easily corrected with the proper care, which can now be provided by ORBIS trained paramedics at Moulvibazar BNSB. Additionally, one paramedic has completed training in patient counselling and two have trained in operating room management. The counsellor's role is essential to alleviate patients' fears and encourage them to seek treatment, as they are able to compassionately explain treatments and the risks involved.

Eye care and community outreach

Through this project, **22,068 children** have been examined to date, 21,966 of which have received treatment. 102 children have undergone eye surgeries to save or improve their sight. While the number of children visiting the out-patients department is increasing day by day, the number of surgeries performed so far falls somewhat short of the target due to a delay in installing anaesthesia

³ In phacoemulsification, a probe is inserted into the eye through a small incision and high frequency sound waves fragment the clouded lens, which can then be suctioned out through a very small incision

⁴ Strabismus, commonly known as squint, is a condition in which one or both of the eyes turn in, out, up or down. This can result in double vision or one of the eyes effectively turning off (becoming blind) to avoid such.

⁵ Ptosis, the medical name for a drooping eyelid, affects vision as the low upper eyelid obstructs the pupil.

⁶ Refractionists test to determine the eye's refractive error (this occurs when light rays are not brought to a sharp focus on the retina, producing a blurred image) and the best corrective lenses to be prescribed.

facilities. Now that an anaesthetist and the necessary anaesthesia equipment are in place, we have seen an increase in the number of paediatric surgeries being performed, which we can expect to continue to rise.

A total of **7,432 cataract patients** have been examined and 3,724 sight-saving cataract surgeries have been performed at the hospital. A considerable number of those examined had immature cataracts which were not yet operable, but the fact they sought treatment is a testament to the success of the eye health care awareness raising activities. Many cataract patients in developing countries do not know what is causing their vision loss, or that it can be successfully treated with a 15-20 minute operation – they simply go about their daily lives as best they can, and eventually go blind, leaving them unable to work and support their families. Removing cataracts not only restores vision, but restores livelihoods, making an enormous difference to people's lives.

Community-based **awareness raising** activities are important to educate people about sight protection. At least 111,000 people have been informed about eye health, meaning they will be able to recognise eye problems and will know what steps to take in order to access medical advice and treatment for themselves and their children. Thousands of posters and leaflets have been distributed for the purposes of educating the community about cataract and childhood blindness. World Sight Day in October was marked with a rally which included colourful banners, and visited several key locations in the city, helping to raise awareness of the importance of eye health care.

Sustainability

Three members of staff from BNSB Moulvibazar (including a consultant ophthalmologist and hospital manager) attended a vision-building workshop at ORBIS partner Aravind Eye Hospital in India, which focused on capacity building to ensure effective management of the eye care system. Following this and the training of the hospitals systems officer, Mr. Shah Fakhru Islam in IT applications, an electronic patient registration and documentation system will be implemented as part of the capacity building initiative. This will greatly improve management of the eye care programme, increasing efficiency and reducing costs.

EXPENDITURE REPORT

Item	Budget Amount (£)	Actual Amount (£)
Training		
Six-month foreign fellowship (2 doctors)	3,128	2,008
In-country training (2 nurses/paramedics)	1,240	1,172
Hospital-based training programme (2 doctors)	2,179	5,558
Equipment		
Minor surgery supplies	2,235	2,290
Spectacles	1,676	0
Cataract surgical supplies with IOL	7,821	4,472
Slitlamp with CCTV (2)	8,380	3,247
Trial orthoptics lens set	1,117	2,852
B-Scan	11,173	10,619
Vitrectomy machine	8,380	13,997
TOTAL	47,329	46,213

NB: During the hospital-based training programme, the volunteer donated the required spectacles to the Moulvibazar BNSB Hospital, which allowed for some cost savings. In addition, prior to the procurement of equipment, ORBIS solicits bids from local suppliers and selects the most cost-effective. As a result, we were able to obtain additional cost savings for equipment and consumables.

This project, supported by the Jersey Overseas Aid Commission in 2006, forms an integral part of ORBIS's work to eliminate childhood blindness and the huge burden of cataract blindness in areas of great need. We sincerely thank you for your support.